

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
15 July 2004 (15.07.2004)

PCT

(10) International Publication Number
WO 2004/059293 A3

(51) International Patent Classification⁷: **C12Q 1/68**, 1/70

92126 (US). **KIRCHICK, Howard, J.** [US/US]; 5449
Panoramic Lane, San Diego, CA 92121 (US).

(21) International Application Number:

PCT/US2003/041453

(74) Agents: **WARBURG, Richard, J.** et al.; **FOLEY & LARDNER**, P.O. Box 80278, San Diego, CA 92138-0278 (US).

(22) International Filing Date:

23 December 2003 (23.12.2003)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

60/436,301	24 December 2002 (24.12.2002)	US
10/330,696	27 December 2002 (27.12.2002)	US
10/371,149	20 February 2003 (20.02.2003)	US
10/603,891	24 June 2003 (24.06.2003)	US
10/673,077	26 September 2003 (26.09.2003)	US
10/714,078	14 November 2003 (14.11.2003)	US

(81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (*regional*): ARIPO patent (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

(71) Applicant (*for all designated States except US*): **BIOSITE INCORPORATED** [US/US]; 11030 Roselle Street, San Diego, CA 92121 (US).

(72) Inventors; and

(75) Inventors/Applicants (*for US only*): **BUECHLER, Kenneth, F.** [US/US]; P. O. Box 77, Rancho Santa Fe, CA 92067 (US). **MAISEL, Alan** [US/US]; 14929 Via la Senda, Del Mar, CA 92014 (US). **ANDERBERG, Joseph, Michael** [US/US]; 470 Delage Ct., Encinitas, CA 92024 (US). **MCPHERSON, Paul, H.** [US/US]; 1449 Elva Court, Encinitas, CA 92024 (US). **DAHLEN, Jeffrey, R.** [US/US]; 10555 Kemmerton Road, San Diego, CA

Published:

— with international search report

(88) Date of publication of the international search report:
31 March 2005

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: **MARKERS FOR DIFFERENTIAL DIAGNOSIS AND METHODS OF USE THEREOF**

(57) Abstract: The present invention provides methods for the identification and use of diagnostic markers for differential diagnosis of diseases and/or conditions. In a various aspects, the invention relates to methods and compositions able to determine the presence or absence of one, and preferably a plurality, of diseases or conditions that exhibit one or more similar or identical symptoms. Such methods and compositions can be used to provide assays and assay devices for use in determining the disease or condition underlying one or more non-specific symptoms exhibited in a clinical setting.



WO 2004/059293 A3

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US03/41453

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : C12Q 1/68; 1/70

US CL : 435/, 6, 7.1, 7.2, 7.4, 7.92, 91.2; 436/500,510,517,518,525,527; 422/50,51,68.1,73,82.05

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 435/, 6, 7.1, 7.2, 7.4, 7.92, 91.2; 436/500,510,517,518,525,527; 422/50,51,68.1,73,82.05

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
MEDLINE, EMBASE, SCISEARCH, BIOSIS**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X,P --- Y,P	WO 03/016910 A1 (VALKIRS et al.) 27 February 2003 (27.02.2003), see entire document.	1-36, 68-76, and 78-141 ----- 37-67, 77, and 142-182
X,P --- Y,P	US 2003/0153014 A1 (SHEN et al.) 14 August 2003 (14.08.2003), see entire document.	1, 26-33, 35, and 67 ----- 2-25, 34, 36-66, 68-137, and 141-182
X --- Y	US 6,214,560 B1 (YGUERABIDE et al.) 10 April 2001 (10.04.2001), see entire document.	32-34, 67, 76, 104, and 171 ----- 141
X --- Y	US 5,599,668 A (STIMPSON et al.) 04 February 1997 (04.02.1997), see entire document.	32-34, 67, 76, 104, and 171 ----- 141



Further documents are listed in the continuation of Box C.



See patent family annex.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T"

later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X"

document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y"

document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&"

document member of the same patent family

Date of the actual completion of the international search

13 December 2004 (13.12.2004)

Date of mailing of the international search report

05 JAN 2005

Name and mailing address of the ISA/US

Mail Stop PCT, Attn: ISA/US

Commissioner for Patents

P.O. Box 1450

Alexandria, Virginia 22313-1450

Facsimile No. (703) 305-3230

Authorized officer

Gailene R. Gabel

Telephone No. (571) 272-1600